

VILLALOBOS-DOMINGUEZ, C. and J. VILLALOBOS. 1947. Colour Atlas. Buenos Aires.

WAGNER, W. H., JR. 1966. Two new species of ferns from the United States. Amer. Fern J. **56**: 3-17.

DEPARTMENT OF BOTANY AND BOTANICAL GARDENS, UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN 48104.

### Some New Combinations in Thelypteris

C. V. MORTON

In 1959,<sup>1</sup> I showed that *Hemionitis pozoi* Lagasca<sup>2</sup> had long been misidentified as being a species of *Pleurosorus* but that actually it was the earliest name for the fern that had been called *Dryopteris africana* C. Chr. in the Index Filicum. This species belongs to *Thelypteris* subg. *Cyclosorus* sect. *Leptogramma* (J. Smith) Morton,<sup>3</sup> as I have classified this group. Some workers, e.g. Alston, have considered *Leptogramma* as a genus, but it seems to be no more than a section of subg. *Cyclosorus* with the sori elongate and exindusiate. Such elongate sori occur in other groups of *Thelypteris* (e.g. *Meniscium*) and in some species otherwise typical of the section *Lastrea*, e.g. *Dryopteris linkiana* and others, not yet transferred to *Thelypteris*.

The latest worker on this group, Dr. K. Iwatsuki, has treated *Leptogramma* as *Stegnogramma* Blume sect. *Leptogramma*,<sup>4</sup> but he has not adduced any convincing reasons for recognizing *Stegnogramma* as distinct from *Thelypteris*. In a more recent paper,<sup>5</sup> Iwatsuki has summarized the characters of *Stegnogramma* as follows: "Short rhizome with well marked collenchymatous tissues, the pinnate or pinnatifid fronds having the indistinct apical pinnae, the exindusiate sori elongate along the

<sup>1</sup> Sur la nomenclature de deux Fougères rares d'Espagne. Bull. Soc. Bot. France **106**: 231-234. 1959.

<sup>2</sup> Nov. Gen. et Sp. 33. 1816.

<sup>3</sup> Amer. Fern J. **53**: 153. 1963.

<sup>4</sup> Acta Phytotax. Geobot. **19**: 116. 1963.

<sup>5</sup> Mem. Coll. Sci. Univ. Kyoto, Ser. B, **31**: 19. 1964.

veinlets, the setiferous sporangia, and the simple setose hairs densely throughout the plants." None of these characters is distinctive or generic: short rhizomes are characteristic of most *Thelypteris*, as are fronds pinnatifid at apex (With "indistinct apical pinnae"), setiferous sporangia are found in various unrelated species (e.g. *T. concinna* of sect. *Lastrea* and *T. tetragona* of sect. *Goniopteris*), and the "setose" hairs are characteristic of all *Thelypteris* species, and are in fact one of the chief indications that *Leptogramma* and *Stegnogramma* belong with *Thelypteris* rather than an argument that they ought to be separated from it.

The Asiatic representatives of the section *Leptogramma* have been treated as distinct species, but they seem to me to be very closely allied with typical *T. pozoi* (Lagasca) Morton, which seems to be very widespread in distribution. I agree with Iwatsuki that *mollissima* is best treated merely as a geographic subspecies, and in my opinion *himalaica* is also merely a dwarfish subspecies, for which the following new combinations are proposed:

THELYPTERIS POZOI (Lagasca) Morton subsp. **mollissima** (Kunze) Morton,  
*comb. nov.*

*Gymnogramma mollissima* Fischer ex Kunze, *Linnaea* **23**: 255, 310. 1850,  
*nom. nud.*

*Gymnogramma totta* Schlecht. var. *mollissima* Kunze, *Linnaea* **24**: 249.  
1851. SYNTYPES: Niligiri Mountains, India, *Schmid-Koch* 8, 79, 145; *Weigle-Schaeffer* 39; and cultivated plants (or specimens) from the botanical garden in St. Petersburg.

*Leptogramma mollissima* Ching, *Sinensia* **7**: 102, t. 9. 1936.

*Stegnogramma pozoi* (Lagasca) K. Iwatsuki subsp. *mollissima* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 125. 1963.

In the Index Filicum *Gymnogramma mollissima* Fischer ex Kunze is cited as though it were validly published, with no indication that it is a *nomen nudum*. Ching evidently did not see the original publication, because he cited this *nomen nudum* as the basis for his new combination *Leptogramma mollissima*, and in proposing this as a subspecies Iwatsuki has done likewise. Apparently neither Ching nor Iwatsuki saw the first valid pub-

lication of the epithet *mollissima*, which is as a variety of *G. totta* Schlecht., a year later than the name *G. mollissima* as a species. This error is picked up in the new Supplement IV of the Index Filicum.

THELYPTERIS POZOI subsp. **himalaica** (Ching) Morton, *comb. nov.*

*Leptogramma himalaica* Ching, *Sinensia* **7**: 100. 1936. TYPE: Simla, India, *R. R. Stewart*.

*Stegnogramma himalaica* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 122. 1963.

This subspecies is smaller than subsp. *mollissima*, with relatively broader, more obtuse pinnae. It has been supposed to be confined to the northwestern Himalaya Mountains, but I have seen a recent collection from southern India: Kodiakanal, 7000 feet elevation, *Abraham 1067*

The other undoubted species of Asiatic Leptogrammas are:

THELYPTERIS **tottoides** (H. Ito) Morton, *comb. nov.*

*Leptogramma tottoides* H. Ito, *Bot. Mag. Tokyo* **49**: 434. 1935. TYPE: Mount Arisan, Taiwan, in 1912, *Hayata & Sasaki*.

*Stegnogramma tottoides* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 121. 1963.

THELYPTERIS **gymnocarpa** (Copel.) Morton, *comb. nov.*

*Dryopteris gymnocarpa* Copel. in *Elmer, Leaf. Phil. Bot.* **3**: 807. 1910. TYPE: Mount Apo, at falls of Cati Creek, 1750 m., Mindanao, Philippine Islands, *Elmer 11508*.

*Stegnogramma gymnocarpa* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 122. 1963.

THELYPTERIS GYMNOCARPA subsp. **amabilis** (Tagawa) Morton, *comb. nov.*

*Leptogramma amabilis* Tagawa, *Acta Phytotax. Geobot.* **7**: 76. 1938. TYPE: Sate, Okinawa, Ryukyu Islands, *G. Koidzumi*.

*Stegnogramma gymnocarpa* subsp. *amabilis* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 123. 1963.

A local subspecies, apparently confined to the Ryukyu Islands, where it is seemingly common.

THELYPTERIS **scallanii** (Christ) Morton, *comb. nov.*

*Aspidium scallanii* Christ, *Bull. Soc. Bot. Ital.* **1901**: 296. TYPE: Szechwan, China, *Scallan*.

*Stegnogramma scallanii* K. Iwatsuki, *Acta Phytotax. Geobot.* **19**: 124. 1963.

U. S. NATIONAL MUSEUM, WASHINGTON, D. C. 20560.